

AD-A037 939

ARMY ELECTRONICS COMMAND WHITE SANDS MISSILE RANGE N--ETC F/6 4/2
12811A LANCE MISSILE NUMBER 2200, ROUND NUMBER 293 RCL (13 JANU--ETC(U)
JAN 77

UNCLASSIFIED

DR-935

NL

| OF |
AD
A037939



END

DATE
FILMED
5-77

AD No. _____

DDC FILE COPY

ADA 037939

APPROVED FOR PUBLIC RELEASE; DISTRIBUTION UNLIMITED

DR-935
January 1977

AD

12
B

METEOROLOGICAL DATA REPORT

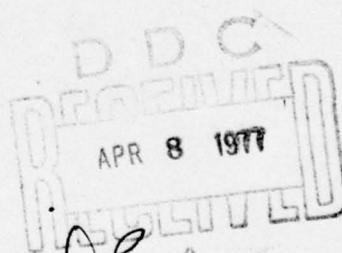
12811A LANCE
MISSILE NO. 2200, ROUND NO. 293 RCL
(13 January 1977)

BY

WSMR METEOROLOGICAL TEAM

copy available to DDC does not
COPY AVAILABLE TO DDC DOES NOT
PERMIT FULLY LEGIBLE PRODUCTION

ATMOSPHERIC SCIENCES LABORATORY
WHITE SANDS MISSILE RANGE, NEW MEXICO



.....
ECOM
UNITED STATES ARMY ELECTRONICS COMMAND

DISPOSITION INSTRUCTIONS

Destroy this report when it is no longer needed. Do not return to the originator.

DISCLAIMER

The findings in this report are not to be construed as an official Department of the Army position, unless so designated by other authorized documents.

The citation of trade names and names of manufacturers in this report is not to be construed as official Government indorsement or approval of commercial products or services referenced herein.

UNCLASSIFIED
SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER <i>(14) DR-935</i>	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) <i>12811A LANCE MISSILE NO. 2200, ROUND NO. 293 RCL (13 January 1977)</i>	5. TYPE OF REPORT & PERIOD COVERED	6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) <i>WSMR Meteorological Team</i>	8. CONTRACT OR GRANT NUMBER(s) <i>(16) DA Task 1T665702D127-02</i>	9. PERFORMING ORGANIZATION NAME AND ADDRESS <i>(9) Meteorological data rept.</i>
11. CONTROLLING OFFICE NAME AND ADDRESS <i>US Army Electronics Command Atmospheric Sciences Laboratory White Sands Missile Range, New Mexico</i>	12. REPORT DATE <i>(11) Jan 1977</i>	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS <i>(17) 02</i>
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) <i>US Army Electronics Command Ft. Monmouth, New Jersey</i>	15. SECURITY CLASS. (of this report) <i>UNCLASSIFIED</i>	15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) <i>Approved for public release; distribution unlimited.</i>		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) <ol style="list-style-type: none">1. Ballistics2. Meteorology3. Wind		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) <i>Meteorological data gathered for the launching of 12811A Lance, Missile Number 2200, Round Number 293 RCL, are presented in tabular form.</i>		

CONTENTS

	PAGE
INTRODUCTION -----	1
DISCUSSION -----	1
TABLES	
I. Surface Observations Taken at Don Site -----	1
II. Anemometer-Measured Wind Speed and Direction, Pole No. 1 -----	2
III. Pilot-Balloon-Measured Wind Data, Release No. 1 at 0835 MST -----	3
IV. Pilot-Balloon-Measured Wind Data, Release No. 1 at 0835 MST -----	5
V. Pilot-Balloon-Measured Wind Data, Release No. 2 at 0852 MST -----	6
VI. Holloman Significant Level Data (Release Time: 0755 MST) -----	9
VII. Holloman Upper Air Data (Release Time: 0755 MST) -----	11
VIII. Holloman Mandatory Levels (Release Time: 0755 MST) -----	17
IX. Jallen Significant Level Data (Release Time: 0815 MST) -----	18
X. Jallen Upper Air Data (Release Time: 0815 MST) -----	20
XI. Jallen Mandatory Levels (Release Time: 0815 MST) -----	26

INTRODUCTION

12811A Lance, Missile Number 2200, Round Number 293 RCL, was launched from Don Site, White Sands Missile Range (WSMR), New Mexico, at 0851 HRS MST, 13 January 1977. The scheduled launch time was 0815 HRS MST.

DISCUSSION

Meteorological data were recorded and reduced by the WSMR Meteorological Team, Atmospheric Sciences Laboratory (ASL), WSMR, New Mexico. The data are presented in the following tabulations.

ELEVATION	3,997.0	FEET/MSL
PRESSURE	879.0	MBS
TEMPERATURE	-1.4	°C
RELATIVE HUMIDITY	93	%
DEW POINT	-2.4	°C
DENSITY	1,124.0	GM/M ³
WIND SPEED	04	MPH
WIND DIRECTION	120	DEGREES
CLOUD COVER	10	FOG

TABLE I. SURFACE OBSERVATIONS TAKEN AT DON SITE,
0854 HRS MST/13 JANUARY 1977.

T-TIME (MIN-SEC)	SPEED (MPH)	DIR DEG
-0.30	3.5	116
-0.20	3.5	119
-0.10	4.0	122
00.00	4.0	132

TABLE II. ANEMOMETER-MEASURED WIND SPEED AND DIRECTION, POLE NO. 1
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL
LAUNCHED FROM DON SITE, 0854 MST/13 JANUARY 1977

WSTM COORDINATES: X = 512,027.48 Y = 247,400.25 Z = 3,997.64

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR	MISSING	DATA
100		
200		
300		
400		
500		
600	MISSING	DATA
700	360	3.0
800	083	1.5
900	287	1.0
1000	243	0.5
1100	298	2.0
1200	275	4.5
1300	236	0.5
1400	090	2.0
1500	325	2.0
1600	358	3.5
1700	336	6.5
1800	307	7.0
1900	305	9.0
2000	299	11.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
2100	302	9.0
2200	285	5.5
2300	302	9.0
2400	291	10.5
2500	316	9.5
2600	341	12.0
2700	321	11.5
2800	328	11.5
2900	320	12.5
3000	323	13.0
3100	324	13.5
3200	329	13.5
3300	323	11.5
3400	342	9.0
3500	341	6.5
3600	331	9.5
3700	327	11.0
3800	312	14.0
3900	303	15.0
4000	313	11.5
4100	331	14.0

TABLE III. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1
RELEASED FROM DON SITE, AT 0835 MST/13 JANUARY 1977
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 511,988.37 Y = 247,396.36 Z = 3,996.83

APPROXIMATELY: 1/4 MILE EAST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	311	13.5
4300	312	14.5
4400	302	16.5
4500	296	15.0
4600	308	14.5
4700	302	15.0
4800	303	15.5
4900	303	15.5
5000	306	16.0
5100	312	17.0
5200	307	17.0
5300	306	15.5
5400	296	15.0
5500	290	18.0
5600	294	14.0

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
5700	302	15.5
5800	292	15.5
5900	301	17.5
6000	292	16.0
6100	079	17.5
6200	284	18.5
6300	284	17.5
6400	296	20.5
6500	292	18.0
6600	270	20.5
6700	278	24.5
6800	283	27.0
6900	284	25.5
7000	275	22.0

TABLE III. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR		CALM
500	355	1.0
1000	355	3.0
1500	335	4.0
2000	320	7.0
2500	310	9.0
3000		11.0
3500		12.0
4000		12.0
4500	310	12.0
5000	305	12.0
5500	295	11.0
6000	280	12.0
6500	270	13.0
7000	265	16.0
7500	260	20.0

TABLE IV. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 1
RELEASED FROM NW-50, AT 0835 MST/13 JANUARY 1977
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
SUR		CALM	2100	256	10.0
100	360	0.5	2200	307	7.5
200	319	2.0	2300	312	8.5
300	317	4.0	2400	311	8.5
400	045	0.5	2500	313	9.5
500	108	2.5	2600	324	10.0
600	113	1.5	2700	326	10.5
700	310	4.0	2800	325	10.5
800	304	4.5	2900	321	10.5
900	308	4.0	3000	323	11.0
1000	297	3.0	3100	322	10.5
1100	293	3.5	3200	320	11.0
1200	290	4.0	3300	318	11.0
1300	286	5.0	3400	316	10.5
1400	282	5.5	3500	320	11.0
1500	278	6.0	3600	341	10.0
1600	275	7.0	3700	324	10.5
1700	271	7.5	3800	323	12.5
1800	267	8.0	3900	315	14.5
1900	263	8.5	4000	316	13.0
2000	260	9.0	4100	311	14.0

TABLE V. PILOT-BALLOON-MEASURED WIND DATA, RELEASE NO. 2
RELEASED FROM DON SITE, AT 0852 MST/13 JANUARY 1977
12811A LANCE, MISSILE NO. 2200, ROUND NO. 293 RCL

PIBAL RELEASE POINT WSTM COORDINATES:

X = 511,988.37 Y = 247,396.36 Z = 3,996.83

APPROXIMATELY: 1/4 MILE EAST OF LAUNCHER.

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)	HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
4200	313	13.0	6600	289	20.5
4300	310	14.0	6700	283	23.0
4400	310	3.5	6800	281	22.5
4500	309	13.0	6900	283	24.5
4600	306	13.0	7000	279	24.5
4700	311	12.0	7100	278	24.5
4800	308	14.0	7200	276	25.0
4900	312	14.0	7300	272	26.0
5000	309	14.0	7400	271	24.5
5100	306	14.5	7500	269	23.5
5200	305	15.5	7600	270	25.0
5300	301	15.5	7700	268	26.0
5400	304	15.5	7800	268	27.0
5500	305	16.5	7900	266	28.5
5600	304	16.0	8000	263	30.0
5700	300	15.5	8100	265	31.5
5800	304	16.0	8200	261	29.5
5900	305	17.0	8300	262	30.0
6000	298	16.5	8400	265	27.5
6100	297	17.0	8500	259	28.0
6200	296	16.0	8600	253	28.5
6300	294	18.0	8700	259	27.0
6400	294	20.0	8800	257	31.5
6500	293	20.5	8900	259	32.0

TABLE V. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
9000	259	31.0
9100	248	35.0
9200	250	34.0
9300	249	36.5
9400	246	34.0
9500	245	35.0
9600	243	32.5
9700	242	34.5
9800	241	33.5
9900	241	33.0
10000	239	34.0
10100	239	35.5

HEIGHT (FEET)	DIRECTION (DEGREES)	SPEED (MPH)
10200	239	35.0
10300	240	35.0
10400	240	35.0
10500	241	34.5
10600	238	32.0
10700	232	33.0
10800	244	31.5
10900	241	32.0
11000	243	32.0
11100	252	32.0
11200	248	33.0
11300	241	33.0

TABLE V. (CONT)

NOTE: WIND DIRECTION DATA ARE REFERENCED TRUE NORTH.

STATION ALTITUDE 4126.59 FEET MSL
 13 JAN. 77 0755 HRS MSL
 ACCESSION NO. 35

SIGNIFICANT LEVEL DATA
 C130010025
 HOLLOWAY
 15

TABLE VI

WSTM SITE COORDINATES
 571739.24 FEET E
 352745.21 FEET N

PRESSURE GEOMETRIC
 ALTITUDE
 MILLIBARS MSL FEET

TEMPERATURE
 AIR DEWPOINT
 DEGREES CENTIGRADE

	874.2	4126.6	-7.7	-8.8	92.0
	863.7	4437.0	-5.2	-5.3	99.0
	853.6	4737.6	-1	-2	99.0
	852.5	4855.1	-4	-3	99.0
	826.2	5606.0	1.9	-6.2	55.0
	795.0	6527.4	2.7	-10.5	37.0
	712.8	9489.8	-4.2	-16.4	78.0
	702.7	9958.2	-5.0	-14.5	47.0
	673.5	10969.8	-7.4	-15.5	52.0
	662.9	11433.6	-7.8	-34.0	10.0
	642.5	12152.9	-9.3	-72.9	72.0
	525.2	12844.2	-10.7	-14.1	76.0
	513.7	13312.9	-12.3	-16.1	73.0
	604.7	13685.0	-12.8	-18.7	61.0
	581.6	14658.2	-15.1	-21.5	58.0
	564.5	15392.1	-16.1	-40.6	10.0
	500.0	18363.6	-22.2	-45.4	10.0
	490.0	27625.7	-34.4	-50.8	17.0
	300.0	30115.4	-43.6		
	250.0	34040.4	-50.4		
	222.4	36590.0	-52.6		
	212.2	37599.1	-52.3		
	200.0	38844.1	-54.6		
	171.8	41342.7	-51.5		
	173.8	41828.6	-52.3		
	157.6	43925.0	-50.0		
	150.0	44989.0	-50.3		
	138.9	46650.0	-52.6		
	122.4	49214.3	-54.6		
	117.2	50949.4	-52.2		

STATION ALTITUDE 4126.59 FEET MSL
13 JAN. 77 0755 HRS MST
ASCENSION NO. 35

SIGNIFICANT LEVEL DATA
0130010275
HOLDMAN
TABLE VI (CONT)

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE FEET MSL	TEMPERATURE AIR DEWPONT DEGREES CENTIGRADE	REL. HUM. PERCENT
109.8	51582.9	-58.0	
100.0	53505.7	-62.5	
85.7	56681.9	-70.3	
78.0	58479.8	-69.4	
70.0	60595.2	-64.0	
66.6	61606.7	-61.3	
56.2	65076.6	-62.3	
50.0	67474.2	-55.9	
41.6	71300.1	-56.4	
41.2	71504.6	-52.4	
33.8	75713.5	-54.6	
32.0	78243.7	-53.5	
20.0	36941.8	-49.8	
16.8	90728.3	-48.4	

STATION ALTITUDE 4125.59 FEET MST
 13 JAN. 77 0755 HRS MST
 ASCENSION NO. 25

UPPER AIR DATA
 C130010025
 40110MAN
 TABLE VII

ASTH SITE COORDINATES
 571739.24 FEET E
 362745.21 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADI	REL.HUM. PERCENT	SOUND METER KNOTS	WIND DATA INDEX OF REFRACTION	
					WIND DIRECTION DEGREES (TN)	WIND SPEED KNOTS
4126.6	874.2	-7.7	-8.9	92.0	1145.7	145.0
4500.0	861.6	-4.1	-4.7	99.0	1113.6	129.4
4800.0	845.4	0.7	-0.7	90.5	1072.6	645.5
5200.0	829.5	1.7	-5.0	51.2	1049.4	646.5
5500.0	814.0	2.2	-7.6	48.1	1028.7	647.0
5800.0	798.8	2.6	-9.9	19.2	1007.8	647.4
6000.0	783.8	1.8	-11.3	37.1	991.9	646.4
6500.0	769.0	0.6	-17.3	37.3	977.6	644.9
7000.0	754.5	-7	-17.7	77.5	963.5	643.4
7500.0	740.2	-1.9	-14.4	37.7	949.6	642.0
8000.0	726.2	-3.1	-15.4	37.8	936.0	640.5
8500.0	712.5	-4.3	-16.4	38.2	922.5	639.0
9000.0	698.9	-5.1	-14.6	47.2	907.7	637.2
10000.0	685.4	-6.3	-15.1	43.7	893.8	636.7
11000.0	672.2	-7.6	-16.2	45.3	880.4	635.4
11500.0	659.7	-7.9	-32.2	12.8	865.7	634.5
12000.0	646.4	-9.0	-24.4	37.3	852.0	633.3
12500.0	633.8	-10.0	-17.5	54.1	838.4	632.3
13000.0	621.4	-11.2	-14.8	75.0	825.5	630.9
13500.0	609.1	-12.6	-17.4	66.9	813.5	629.2
14000.0	597.1	-13.5	-19.6	50.0	800.6	628.0
14500.0	585.3	-14.7	-21.0	58.5	788.4	626.5
15000.0	573.6	-15.6	-27.3	75.6	775.4	625.4
15500.0	562.1	-16.3	-40.7	10.0	762.4	624.4
16000.0	550.7	-17.3	-41.5	10.0	749.9	623.1
16500.0	539.6	-18.4	-42.4	10.0	737.7	621.9
17000.0	528.7	-19.4	-43.2	10.0	725.7	620.6
17500.0	518.0	-20.4	-44.0	10.0	713.9	619.3
18000.0	507.5	-21.5	-44.8	10.0	702.2	618.1
18500.0	497.1	-22.5	-45.5	10.2	690.9	616.8

STATION ALTITUDE 4126.59 FEET MST
 13 JAN. 77 C 355 HRS MST
 ASCENSION NO. 25

UPPER AIR DATA
 C12CO1CC25
 MOLLOMAN
 TABLE VII (CONT)

WSTW SITE COORDINATES
 571739.24 FEET E
 362745.21 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	AIR DEWPOINT DEGREES	REL. HUM. PERCENT	SPEED OF SOUND METER	WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS	INDEX OF REFRACTION
19000.0	496.7	-23.7	-45.8	10.8	679.5	615.4	244.9	49.0
19500.0	476.5	-24.8	-46.2	11.5	668.4	513.9	242.3	49.7
20000.0	466.5	-26.0	-46.7	12.2	657.5	612.5	239.4	49.9
20500.0	456.7	-27.2	-47.2	12.8	646.7	611.0	236.8	50.3
21000.0	447.1	-28.3	-47.7	13.5	636.1	609.6	234.8	50.7
21500.0	437.7	-29.5	-48.2	14.2	625.7	608.2	232.7	51.5
22000.0	428.5	-30.5	-48.8	14.8	615.5	606.7	230.4	52.6
22500.0	419.6	-31.8	-49.4	15.5	605.5	605.3	228.7	53.8
23000.0	410.7	-33.0	-50.0	16.2	595.7	603.8	227.4	55.1
23500.0	402.1	-34.1	-50.6	16.8	586.0	602.3	226.5	55.2
24000.0	393.4	-34.9	-51.7	16.9*	575.7	601.3	225.7	55.0
24500.0	384.8	-35.6	-53.0	14.7**	564.4	600.4	226.0	53.8
25000.0	376.4	-36.3	-54.4	13.4**	553.6	599.5	226.3	52.8
25500.0	368.1	-37.1	-55.4	12.1**	543.1	598.6	225.7	53.0
26000.0	360.0	-37.8	-57.7	10.8**	532.8	597.7	224.4	52.1
26500.0	352.1	-38.5	-58.9	9.5**	522.7	596.8	221.5	49.0
27000.0	344.4	-39.2	-60.5	8.2**	512.8	595.9	221.0	46.7
27500.0	336.9	-39.9	-62.5	6.9**	503.1	595.0	220.5	45.7
28000.0	329.5	-40.6	-64.5	5.5**	493.6	594.1	229.1	45.6
28500.0	322.3	-41.3	-67.1	4.2**	484.2	593.2	234.7	46.5
29000.0	315.2	-42.0	-70.2	2.9**	475.1	592.3	238.8	46.0
29500.0	308.3	-42.7	-74.6	1.6**	466.1	591.4	241.2	42.7
30000.0	301.5	-43.4	-85.2	0.3**	457.3	590.5	244.0	40.0
30500.0	294.8	-44.3			448.6	589.4	247.0	38.7
31000.0	288.1	-45.1			440.1	588.3	249.9	37.7
31500.0	281.5	-46.0			431.7	587.2	251.3	39.1
32000.0	275.2	-46.8			423.5	586.1	252.6	38.6
32500.0	268.9	-47.7			415.5	585.0	252.0	39.9
33000.0	262.6	-48.5			407.6	583.9	251.5	41.1
33500.0	256.9	-49.4			399.9	582.8	252.7	40.6

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

STATION ALTITUDE 4125.59 FEET MST
 13 JAN. 77 0755 HRS MST
 ASCENSION NO. 25

UPPER AIR DATA
 C130010025
 40LL0MAN
 TABLE VII (CONT)

WSTM SITE COORDINATES
 571739.24 FEET E
 362745.21 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEWPOINT DEGREES		REL. HUM. PERCENT	SPEED OF WIND METERS/SEC	WIND DATA DIRECTION DEGREES (TN)		INDEX OF REFRACTION
		DEGREES	CENTIGRADE			GM/CUBIC METER	SOND	
34000.0	251.0	-50.2	-50.2	392.3	581.6	254.2	254.2	1.0000037
34500.0	245.3	-50.8	-50.8	384.2	580.9	254.6	41.0	1.0000086
35000.0	239.6	-51.3	-51.3	376.2	580.3	254.6	43.4	1.0000084
35500.0	234.0	-51.8	-51.8	368.3	579.7	254.2	46.1	1.0000082
36000.0	228.6	-52.2	-52.2	360.4	579.0	252.8	49.8	1.0000080
36500.0	223.3	-52.7	-52.7	353.0	578.4	251.7	53.5	1.0000079
37000.0	218.2	-52.6	-52.6	344.6	578.6	251.3	55.8	1.0000077
37500.0	213.1	-52.3	-52.3	336.2	578.9	251.1	57.5	1.0000075
38000.0	208.1	-53.1	-53.1	329.4	578.0	251.1	58.5	1.0000073
38500.0	203.3	-54.0	-54.0	323.1	576.8	251.3	58.6	1.0000072
39000.0	198.5	-54.4	-54.4	316.2	576.2	251.4	58.2	1.0000070
39500.0	193.9	-53.8	-53.8	308.0	577.0	251.3	56.5	1.0000069
40000.0	189.4	-53.2	-53.2	299.9	577.8	250.5	56.0	1.0000067
40500.0	185.0	-52.5	-52.5	292.1	578.6	248.3	58.0	1.0000065
41000.0	180.7	-51.9	-51.9	284.5	579.4	246.2	62.6	1.0000063
41500.0	176.5	-51.8	-51.8	277.7	579.7	244.4	69.5	1.0000062
42000.0	172.4	-52.1	-52.1	271.7	579.2	244.2	74.3	1.0000061
42500.0	168.4	-51.6	-51.6	264.9	579.9	244.5	78.2	1.0000059
43000.0	164.6	-51.0	-51.0	258.1	580.6	245.3	81.2	1.0000057
43500.0	160.8	-50.5	-50.5	251.5	581.4	246.5	83.6	1.0000056
44000.0	157.1	-50.0	-50.0	245.2	581.9	247.9	86.0	1.0000055
44500.0	153.4	-50.2	-50.2	239.7	581.7	249.8	88.5	1.0000053
45000.0	149.9	-50.3	-50.3	234.4	581.5	251.7	90.0	1.0000052
45500.0	146.5	-51.0	-51.0	229.7	580.6	254.1	90.5	1.0000051
46000.0	143.1	-51.7	-51.7	225.1	579.7	250.6	90.3	1.0000050
46500.0	139.8	-52.4	-52.4	220.6	578.8	258.9	87.6	1.0000049
47000.0	136.5	-52.9	-52.9	215.0	578.2	261.4	84.8	1.0000048
47500.0	133.3	-53.3	-53.3	211.3	577.6	263.5	79.0	1.0000047
48000.0	130.2	-53.7	-53.7	206.8	577.1	265.9	72.6	1.0000046
48500.0	127.2	-54.1	-54.1	202.3	576.6	267.4	67.1	1.0000045

STATION ALTITUDE 4126.59 FEET MSL
13 JAN. 77 0755 HRS MSL
ASCENSION NO. 15

UPPER AIR DATA
C130C1C325
HOLLOWAN
TABLE VII (CONT)

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES	DEGREE POINT	REL. HUM. PERCENT	CH/CUBIC METER	SOUND METER	SPEED OF WIND DATA	INDEX OF REFRACTION
		CENTIGRADE						
49000.0	124.2	-54.5		198.0	576.0	268.3	62.3	1.000044
49500.0	121.3	-55.2		193.0	575.2	268.3	59.1	1.000043
50000.0	118.5	-56.2		190.2	573.8	266.4	58.8	1.000042
50500.0	115.7	-57.3		186.6	572.4	264.5	58.7	1.000042
51000.0	112.9	-58.2		183.0	571.2	267.7	57.2	1.000041
51500.0	110.2	-58.0		178.5	571.4	262.1	55.5	1.000040
52000.0	107.6	-59.0		175.0	570.1	260.8	53.8	1.000039
52500.0	105.0	-50.1		171.7	568.6	260.0	49.8	1.000038
53000.0	102.5	-61.3		168.5	567.0	259.1	45.8	1.000038
53500.0	100.0	-62.5		165.4	565.4	257.3	42.6	1.000037
54000.0	97.6	-63.7		162.3	563.8	254.1	40.7	1.000036
54500.0	95.1	-64.9		159.2	562.1	250.8	39.2	1.000035
55000.0	92.8	-66.2		156.2	560.5	248.8	39.7	1.000035
55500.0	90.5	-67.4		153.2	558.8	246.8	40.3	1.000034
56000.0	88.3	-68.6		150.3	557.1	247.6	40.4	1.000033
56500.0	86.1	-69.9		147.5	555.5	249.3	40.4	1.000033
57000.0	83.9	-70.1		144.0	555.1	251.3	40.4	1.000032
57500.0	81.8	-69.9		140.2	555.4	253.9	40.4	1.000031
58000.0	79.8	-69.6		136.5	555.8	256.5	40.5	1.000030
58500.0	77.8	-69.3		137.9	556.3	258.1	39.9	1.000030
59000.0	75.8	-68.2		128.9	557.7	259.7	39.2	1.000029
59500.0	74.0	-67.1		125.1	559.2	260.2	37.8	1.000028
60000.0	72.1	-66.1		121.3	560.6	260.0	35.7	1.000027
60500.0	70.3	-65.0		117.7	562.1	259.3	33.7	1.000026
61000.0	68.6	-63.4		114.0	564.2	257.4	32.0	1.000025
61500.0	67.0	-61.7		110.7	566.5	255.2	30.3	1.000025
62000.0	65.3	-61.4		107.5	566.9	253.9	29.2	1.000024
62500.0	63.8	-61.6		105.0	566.7	252.5	28.1	1.000023
63000.0	62.2	-61.7		102.5	566.5	250.8	27.1	1.000023
63500.0	60.7	-61.8		100.1	566.3	248.9	26.2	1.000022

STATION ALTITUDE 4126.59 FEET MSL
13 JAN. 77 0755 HRS MST
ASCENSION NO. 75

UPPER AIR DATA

F132010025
HOLDMAN

TABLE VII (CONT)

WSTM SITE COORDINATES
511739.24 FEET E
362745.21 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. AIR COMPANT			SPEED OF WIND KNOTS	WIND DATA		
			PERCENT	GM/CUBIC METER	DEGREES (TN)		DIRECTION DEGREES	SPEED KNOTS	INDEX OF REFRACTION
64000.0	59.2	-62.0	97.7	556.1	247.4	25.4	247.4	25.4	1.0000022
64500.0	57.8	-62.1	95.4	565.9	247.4	24.5	247.4	24.5	1.0000021
65000.0	56.4	-62.1	97.7	565.7	247.3	23.5	251.3	23.5	1.0000021
65500.0	55.1	-61.9	90.8	566.3	251.3	22.6	256.3	22.6	1.0000020
66000.0	53.7	-61.4	88.4	556.9	256.3	21.8	260.7	21.8	1.0000020
66500.0	52.4	-60.9	86.0	567.6	260.7	21.3	267.6	21.3	1.0000019
67000.0	51.2	-60.4	83.8	558.3	264.4	21.0	264.4	21.0	1.0000019
67500.0	49.9	-59.9	81.6	566.9	267.8	20.9	266.9	20.9	1.0000018
68000.0	48.6	-59.4	79.5	569.5	268.4	20.7	268.4	20.7	1.0000018
68500.0	47.6	-59.0	77.4	570.2	269.0	20.5	269.0	20.5	1.0000017
69000.0	46.5	-58.5	75.4	570.8	269.6	20.2	269.6	20.2	1.0000017
69500.0	45.4	-58.0	73.5	571.4	270.1	19.9	270.1	19.9	1.0000016
70000.0	44.3	-57.6	71.6	572.0	270.1	19.4	272.0	19.4	1.0000016
70500.0	43.2	-57.1	69.7	572.6	265.3	18.5	265.3	18.5	1.0000016
71000.0	42.2	-56.7	67.0	573.2	266.0	17.8	266.0	17.8	1.0000015
71500.0	41.2	-52.5	65.1	573.7	253.2	16.8	253.2	16.8	1.0000014
72000.0	40.3	-52.7	63.6	578.5	244.7	15.9	244.7	15.9	1.0000014
72500.0	39.3	-52.9	62.2	578.1	236.0	15.4	236.0	15.4	1.0000014
73000.0	38.4	-53.2	60.8	577.8	233.9	14.2	233.9	14.2	1.0000014
73500.0	37.5	-53.4	59.5	577.5	231.5	13.1	231.5	13.1	1.0000013
74000.0	36.6	-53.7	58.2	577.1	229.7	12.0	229.7	12.0	1.0000013
74500.0	35.8	-54.0	56.9	576.8	228.8	10.9	228.8	10.9	1.0000013
75000.0	35.0	-54.2	55.6	576.4	227.6	9.9	227.6	9.9	1.0000012
75500.0	34.1	-54.5	54.4	575.1	219.8	8.8	219.8	8.8	1.0000012
76000.0	33.3	-54.5	52.1	576.1	209.7	8.0	209.7	8.0	1.0000012
76500.0	32.6	-54.3	51.3	576.4	195.4	7.7	195.4	7.7	1.0000012
77000.0	31.8	-54.0	50.6	576.7	182.0	8.5	182.0	8.5	1.0000011
77500.0	31.1	-53.8	49.3	577.0	170.5	9.7	170.5	9.7	1.0000011
78000.0	30.3	-53.6	48.2	577.2	164.8	10.6	164.8	10.6	1.0000011
78500.0	29.6	-53.4	47.0	577.5	162.7	10.9	162.7	10.9	1.0000010

STATION ALTITUDE 4125.59 FEET MST
113 JAN. 77 0755 HRS MST
ASCENSION NO. 25

UPPER AIR DATA
013001C525
MOLLOMAN
TABLE VII (CONT.)

W51M SITE COORDINATES
571739.04 FEET E
352745.21 FEET N

GEOMETRIC ALTITUDE MILL FEET	PRESSURE MILIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	SOUND METER KNOTS	SPEED OF WIND DATA	DIRECTION DEGREES (IN) KNOTS	INDEX OF REFRACTION
79000.0	29.0	-53.2	45.2	577.8	160.7	11.7	1.000010
79500.0	28.3	-53.0	44.8	578.1	160.3	10.7	1.000010
80000.0	27.6	-52.8	43.7	578.4	160.1	9.9	1.000010
80500.0	27.0	-52.5	42.5	578.6	159.8	9.2	1.000009
81000.0	26.4	-52.3	41.5	578.9	156.8	7.9	1.000009
81500.0	25.8	-52.1	40.6	579.2	152.8	6.7	1.000009
82000.0	25.2	-51.9	39.5	579.5	155.1	6.0	1.000009
82500.0	24.6	-51.7	38.7	579.8	168.9	6.5	1.000009
83000.0	24.0	-51.5	37.8	590.0	180.2	7.3	1.000008
83500.0	23.5	-51.3	36.9	590.3	176.6	8.0	1.000008
84000.0	22.9	-51.1	36.0	580.6	166.3	6.8	1.000008
84500.0	22.4	-50.8	35.1	530.9	158.0	9.8	1.000008
85000.0	21.9	-50.6	34.3	581.1	154.1	11.0	1.000008
85500.0	21.4	-50.4	33.5	581.4	158.3	12.1	1.000007
86000.0	20.9	-50.2	32.7	581.7	154.5	13.2	1.000007
86500.0	20.4	-50.0	31.9	582.0	154.5	14.4	1.000007
87000.0	19.9	-49.8	31.1	592.2	154.3	15.8	1.000007
87500.0	19.5	-49.6	30.4	582.5	154.0	17.3	1.000007
88000.0	19.3	-49.4	29.7	582.7	14.4	1.000007	
88500.0	18.6	-49.2	29.0	583.0	14.4	1.000006	
89000.0	18.2	-49.0	28.3	583.2	14.4	1.000006	
89500.0	17.8	-48.9	27.6	583.5	14.4	1.000006	
90000.0	17.4	-48.7	27.0	583.7	14.4	1.000006	
90500.0	17.0	-48.5	26.3	583.9	14.4	1.000006	

STATION ALTITUDE 4125.59 FEET MSL
 13 JAN. 77 0755 HRS MST
 ASCENSION NO. 25

MANDATORY LEVELS
 0130C1C075
 HOLLOWAY
 TABLE VIII

WSTM SITE COORDINATES
 571739.24 FEET E
 362745.21 FEET N

PRESSURE MILLIBARS	GEOPOTENTIAL FEET	TEMPERATURE DEGREES CENTIGRADE	REL. HUM. PERCENT		WIND DATA	
			AIR TEMP POINT	DIRECTION DEGREES (CTN)	SPEED KNOTS	WIND SPEED KNOTS
850.0	4854.	•4	•2	25.	11.4	1.2
900.0	6459.	2.6	-9.7	40.	124.0	9.2
750.0	8161.	-1.0	-17.7	78.	309.8	15.5
700.0	9952.	-5.0	-14.5	47.	294.8	29.4
650.0	11849.	-9.7	-26.0	23.	266.3	22.9
500.0	13868.	-13.7	-19.3	60.	246.4	26.4
550.0	16024.	-17.4	-41.6	10.	246.6	26.5
500.0	18344.	-22.2	-45.4	10.	247.4	47.5
450.0	20856.	-29.0	-47.5	13.	235.3	52.6
400.0	23595.	-34.4	-50.0	17.	226.3	55.1
350.0	26631.	-38.7	-59.7	9.***	220.5	48.0
300.0	30068.	-43.0	-	244.7	39.7	
250.0	34031.	-50.0	-	254.5	36.8	
200.0	38767.	-54.0	-	251.4	58.7	
175.0	41593.	-52.1	-	244.0	71.6	
150.0	44886.	-50.7	-	251.5	91.0	
125.0	46750.	-54.4	-	268.1	63.7	
100.0	53751.	-62.5	-	257.3	42.6	
80.0	57772.	-60.7	-	256.2	40.5	
70.0	60910.	-64.8	-	259.0	33.4	
60.0	63537.	-61.0	-	248.0	25.9	
50.0	67246.	-59.9	-	267.8	20.9	
40.0	71876.	-52.7	-	242.5	15.8	
30.0	77940.	-57.5	-	163.9	10.7	
25.0	81863.	-51.3	-	158.8	6.1	
20.0	86570.	-49.8	-	154.3	15.6	

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE INTERPOLATION.

Copy available to DDC does not
 permit fully legible reproduction

STATION ALTITUDE 4050.00 FEET ASL
13 JAN. 77 0215 HRS AST
ASCENSION NO. 16

SIGNIFICANT LEVEL DATA
C170030016
JAILER
TABLE IX

WSTM SITE COORDINATES
450491.50 FELT E
464623.05 FELT N

PRESSURE MILLIBARS	GEOMETRIC ALTITUDE MST FEET	TEMPERATURE AIR DEGREES	REL. HUM. PERCENT	
			DEWPNT	DEUTERIUM
975.0	4051.0	-1.0	-1.6	96.0
952.0	4571.0	2.0	-1.1	85.0
930.0	4947.0	2.7	-2.1	76.0
921.0	5421.5	2.6	-2.4	66.0
911.0	6057.7	2.0	-4.7	61.0
732.0	8782.9	-2.6	-10.4	55.0
700.0	9976.7	-6.9	-11.3	51.0
680.0	10643.3	-9.2	-12.7	78.0
673.5	10921.3	-9.0	-15.3	65.0
537.4	12315.8	-21.6	-24.9	52.0
562.2	15433.5	-13.8	-32.7	28.0
552.4	15866.8	-18.1	-35.0	21.0
534.7	15694.7	-19.9	-37.5	19.0
500.0	18287.1	-33.4	-38.1	22.0
417.4	27544.0	-33.7	-47.5	22.0
402.0	33524.9	-34.2	-49.3	21.0
393.0	30003.9	-44.0		
250.0	33959.2	-51.1		
225.0	36159.3	-50.8		
213.0	37307.8	-52.5		
200.0	38740.6	-51.7		
150.0	44890.2	-51.5		
121.0	49287.2	-57.8		
103.0	53350.3	-61.4		
174.4	52296.6	-69.4		
70.0	60493.0	-7.0		
63.0	67359.0	-53.1		
53.0	65816.9	-63.7		
50.0	67313.4	-56.2		
42.0	71525.5	-58.1		

STATION ALTITUDE 4052.00 FEET MSL
13 JAN. 77 2915 HRS '77
ASCENSION NO. 16

SIGNIFICANT LEVEL DATA

C130C3CC16
JAILEN

TABLE IX (CONT)

WSTM SITE COORDINATES
450491.60 FEET E
464023.06 FEET N

PRESSURE MILLIBARS	SECANT DEGREES MSL FEET	TEMPERATURE		REL. HUM. PERCENT
		ALTITUDE DEGREES DEGREES CENTRORADE	AIR DEWPDTN	
39.4	72257.3	-53.6	-53.6	
33.7	75816.2	-55.6	-55.6	
30.0	78025.1	-53.5	-53.5	
26.0	86789.3	-50.5	-50.5	
16.0	91704.2	-50.7	-50.7	

Copy available to DDC does not
permit fully legible reproduction

STATION ALTITUDE 4051.00 FEET MSL
13 JAN. 77 0815 HRS 4ST
ASCENSION NO. 16

TABLE X
UPPER AIR DATA
C1300Z0016
JALIN

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE DEGREES	AIR DEWPOINT DEGREES	REL.HUM. PERCENT	CH/ACURIC METER	SOUND KNOTS	SPEED OF WIND DATA KNOTS	WIND DATA DEGREES (N)	INDEX OF REFRACTION
4051.0	676.0	-1.0	-1.6	66.0	1112.0	80.4	80.0	2.0	1.0000277
4500.0	661.0	1.6	-1.1	92.2	1089.3	86.5	21.8	2.7	1.0000271
5000.0	645.0	1.9	-2.3	73.3	1067.0	64.9	4.8	4.8	1.0000264
5500.0	629.0	2.5	-7.7	65.4	1045.7	64.7	7.5	7.5	1.0000257
6000.0	617.0	2.1	-4.5	61.5	1023.1	64.6	10.0	10.0	1.0000251
6500.0	598.5	1.1	-5.6	60.7	1012.4	64.5	12.2	12.2	1.0000246
7000.0	737.5	-1	-6.7	50.3	997.1	64.4	11.6	11.6	1.0000241
7500.0	768.7	-1.0	-7.7	49.9	982.1	64.3	10.0	10.0	1.0000236
8000.0	754.2	-2.0	-8.8	58.6	967.4	64.2	9.3	9.3	1.0000232
8500.0	725.0	-3.0	-9.8	59.2	952.0	64.0	8.9	8.9	1.0000227
9000.0	725.0	-4.2	-10.5	51.3	938.0	63.9	8.5	8.5	1.0000224
9500.0	711.9	-5.7	-10.9	56.5	925.0	677.6	8.0	8.0	1.0000220
10000.0	696.7	-7.1	-11.7	71.5	913.1	675.9	7.0	7.0	1.0000217
10500.0	684.7	-8.7	-12.1	76.6	900.0	673.5	6.0	6.0	1.0000214
11000.0	671.4	-9.1	-15.8	58.4	885.4	673.3	5.5	5.5	1.0000211
11500.0	658.2	-10.1	-18.0	48.4	871.0	672.4	5.0	5.0	1.0000208
12000.0	645.0	-11.0	-23.4	78.3	957.7	670.9	4.5	4.5	1.0000205
12500.0	632.7	-12.0	-25.4	31.8	843.7	679.7	4.0	4.0	1.0000202
13000.0	620.1	-13.2	-26.6	31.4	930.6	678.3	3.5	3.5	1.0000199
13500.0	607.7	-14.3	-27.9	37.5	917.7	626.9	2.5	2.5	1.0000196
14000.0	595.6	-15.5	-29.1	29.8	905.0	625.5	2.0	2.0	1.0000192
14500.0	583.7	-16.6	-30.4	29.2	792.5	624.0	1.5	1.5	1.0000189
15000.0	572.1	-17.6	-31.6	28.6	780.3	622.6	1.0	1.0	1.0000186
15500.0	560.7	-18.7	-33.0	27.9	757.4	621.5	0.5	0.5	1.0000183
16000.0	549.4	-18.4	-25.4	30.7	751.1	621.9	0.0	0.0	1.0000179
16500.0	538.2	-19.5	-30.4	19.3	739.1	620.5	-2.5	-2.5	1.0000175
17000.0	527.3	-20.6	-37.8	19.6	727.2	619.2	-4.0	-4.0	1.0000171
17500.0	516.5	-21.7	-38.7	20.5	715.9	617.8	-5.5	-5.5	1.0000167
18000.0	506.0	-22.8	-38.6	21.5	703.9	616.5	-7.0	-7.0	1.0000163
18500.0	495.5	-23.9	-39.5	22.5	692.4	615.1	-8.5	-8.5	1.0000159

STATION ALTITUDE 4051.00 FEET MSL
13 JAN. 77 0915 HRS. MST
ASCENSION NO. 17

UPPER AIR DATA
213203Z016
JALLEN
TABLE X (CONT)

GEOMETRIC ALTITUDE MST FEET	PRESSURE INCHES WATER	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF WIND DATA KNOTS	INDEX OF REFRACTION
19000.0	4.655.1	-25.1	-40.0	681.3	1.000152
19500.0	4.744.9	-25.2	-41.5	612.7	1.000153
20000.0	4.835.0	-27.4	-42.5	652.3	50.4
20500.0	4.955.2	-29.5	-47.5	655.7	52.5
21000.0	4.985.7	-29.7	-46.5	610.8	1.000148
21500.0	4.756.7	-30.9	-45.5	659.5	1.000145
22000.0	4.726.8	-30.9	-42.5	549.2	652.1
22500.0	4.656.7	-30.9	-42.5	637.7	657.5
23000.0	4.626.7	-30.9	-45.5	606.4	656.8
23500.0	4.777.1	-32.0	-46.5	635.8	34.8
24000.0	4.716.2	-33.2	-47.5	607.1	633.8
24500.0	4.695.2	-34.0	-48.4	596.4	632.7
25000.0	4.655.4	-34.8	-49.3	585.1	630.6
25500.0	5.924.6	-35.5	-50.5	574.9	628.7
26000.0	5.883.1	-36.2	-51.4	563.1	626.5
26500.0	5.774.6	-36.9	-53.7	552.4	625.6
27000.0	5.664.4	-37.6	-54.7	541.9	624.7
27500.0	5.556.4	-38.3	-56.3	531.5	623.7
28000.0	5.525.5	-39.0	-57.9	521.5	622.6
28500.0	5.492.7	-39.7	-59.7	511.5	621.5
29000.0	5.452.8	-40.4	-61.6	501.6	620.6
29500.0	5.375.3	-37.9	-41.5	492.8	587.5
30000.0	5.327.9	-41.5	-53.9	487.2	582.5
30500.0	5.320.7	-41.9	-66.5	473.9	591.2
31000.0	5.313.7	-42.6	-69.8	464.9	590.7
31500.0	5.306.9	-43.2	-74.9	-101.5	589.2
32000.0	5.295.2	-44.0	-44.0	456.2	589.7
32500.0	5.293.2	-44.9	-44.9	447.5	586.6
33000.0	5.286.5	-45.9	-45.9	439.4	587.4
33500.0	5.285.1	-46.7	-46.7	432.9	586.5
34000.0	5.273.7	-47.5	-47.5	422.7	585.1
34500.0	5.267.5	-48.5	-48.5	414.7	584.0
35000.0	5.261.4	-49.4	-49.4	406.9	582.8
35500.0	5.255.6	-50.3	-50.3	399.2	581.6

Copy coefficients to TDRG does not
contain fully resolved precipitation
1.000094
1.000092
1.000091
1.000089

* AT LEAST ONE ASSUMED SATURATE HUMIDITY VALUE WAS USED IN THE TENTH POPULATION.

Very creditable to DDCI class
permit fully legible reproduction.

STATION ALTITUDE 4051.00 FEET 451
13 JAN. 77 0815 hrs. MST
45°49'41" N. 105°

UPPER ATR DATA
M120072015
JAHLEN
TABLE X (CONT)

WEST COORDINATES
45°49'41" E 63 FEET E
454923.35 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE	TEMPERATURE	WIND DIRECTION DEGREES	WIND SPEEDS	WIND DATA	WIND OF	WIND
		DEGREES CENTIGRADIANS	DEGREES CENTIGRADIANS	DEGREES	DEGREES	REFRACTION	REFRACTION
34000.0	749.5	-52.4	791.4	580.5	203.7	1.000087	46.3
34500.0	749.5	-51.0	792.5	589.1	49.5	1.000085	49.5
35000.0	748.6	-52.0	793.5	585.1	49.7	1.000083	49.7
35500.0	747.6	-52.0	794.5	582.0	49.8	1.000081	49.8
36000.0	746.6	-52.0	795.5	584.2	47.7	1.000079	47.7
36500.0	745.6	-51.0	796.5	585.5	45.5	1.000078	45.5
37000.0	744.6	-52.0	797.5	584.4	45.1	1.000076	45.1
37500.0	743.6	-52.0	798.5	584.4	44.8	1.000075	44.8
38000.0	742.6	-52.0	799.5	583.4	45.3	1.000073	45.3
38500.0	741.6	-51.0	800.5	579.5	45.0	1.000072	45.0
39000.0	740.6	-52.0	801.5	578.5	48.5	1.000069	48.5
39500.0	739.6	-51.7	802.5	576.5	51.0	1.000068	51.0
40000.0	738.6	-52.0	803.5	575.5	55.0	1.000066	55.0
40500.0	737.6	-51.7	804.5	575.0	50.7	1.000065	50.7
41000.0	736.6	-52.0	805.5	575.0	64.5	1.000063	64.5
41500.0	735.6	-51.7	806.5	574.5	68.4	1.000062	68.4
42000.0	734.6	-52.0	807.5	574.5	73.9	1.000060	73.9
42500.0	733.6	-51.7	808.5	574.5	79.7	1.000059	79.7
43000.0	732.6	-52.0	809.5	574.5	84.5	1.000057	84.5
43500.0	731.6	-51.5	810.5	574.5	87.4	1.000056	87.4
44000.0	730.6	-52.0	811.5	574.5	86.9	1.000055	86.9
44500.0	729.6	-51.7	812.5	574.5	87.8	1.000053	87.8
45000.0	728.6	-52.0	813.5	574.5	85.7	1.000052	85.7
45500.0	727.6	-51.5	814.5	574.5	82.0	1.000051	82.0
46000.0	726.6	-52.0	815.5	574.5	77.9	1.000050	77.9
46500.0	725.6	-51.5	816.5	574.5	75.7	1.000049	75.7
47000.0	724.6	-52.0	817.5	574.5	76.5	1.000048	76.5
47500.0	723.6	-51.5	818.5	574.5	77.4	1.000047	77.4
48000.0	722.6	-52.0	819.5	574.5	71.2	1.000046	71.2
48500.0	721.6	-51.5	820.5	574.5	67.5	1.000045	67.5

STATION ALTITUDE 4051.00 FEET MST
13 JAN. 77 C 915 HRS MST
ASCENSION NO. 16

UPPER AIR DATA
0130030016
JALLEN
TABLE X (CONT)

WESTW SITE COORDINATES
430491.50 FEET E
464023.05 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF WIND DATA METERS KNOTS	WIND DATA		
					DIRECTION DEGREES(N)	SPEED KNOTS	INDEX OF REFRACTION
49000.0	123.4	-57.4	199.3	572.2	266.4	65.9	1.000044
49500.0	120.5	-58.0	195.1	571.4	264.7	65.0	1.000043
50000.0	117.6	-58.4	190.3	570.9	262.6	64.4	1.000043
50500.0	114.8	-58.9	186.7	570.3	260.1	63.8	1.000042
51000.0	112.1	-59.3	182.6	569.7	255.7	62.6	1.000041
51500.0	109.4	-59.8	178.6	569.1	251.3	61.7	1.000040
52000.0	106.8	-60.2	174.7	568.5	246.9	60.7	1.000039
52500.0	104.2	-60.6	170.8	567.9	242.9	59.9	1.000038
53000.0	101.7	-61.1	167.1	567.3	243.5	58.3	1.000037
53500.0	99.3	-61.5	163.5	566.6	244.0	56.7	1.000036
54000.0	96.9	-62.3	159.9	565.7	245.5	52.4	1.000036
54500.0	94.4	-62.9	156.5	564.8	247.7	47.3	1.000035
55000.0	92.1	-63.6	153.1	563.9	249.9	41.2	1.000034
55500.0	89.8	-64.3	149.9	563.0	251.7	33.4	1.000033
56000.0	87.6	-65.0	146.6	562.1	254.7	25.6	1.000033
56500.0	85.5	-65.5	143.5	561.2	255.0	21.0	1.000032
57000.0	83.4	-66.3	140.4	560.3	257.7	16.8	1.000031
57500.0	81.3	-67.0	137.4	559.4	258.7	14.1	1.000031
58000.0	79.3	-67.7	134.5	558.5	256.8	14.7	1.000030
58500.0	77.4	-68.3	131.5	557.5	255.1	15.3	1.000029
59000.0	75.5	-69.0	128.8	556.6	254.8	16.6	1.000029
59500.0	73.6	-59.0	125.6	556.6	255.0	18.3	1.000028
60000.0	71.8	-68.1	121.0	557.9	255.3	19.4	1.000027
60500.0	70.0	-67.2	118.4	559.1	255.8	19.4	1.000026
61000.0	68.3	-68.1	114.8	560.6	256.2	19.4	1.000026
61500.0	66.5	-65.0	111.4	562.1	256.0	18.7	1.000025
62000.0	64.9	-67.9	108.1	563.6	255.7	12.0	1.000024
62500.0	63.4	-63.1	105.1	564.6	256.4	18.5	1.000023
63000.0	61.8	-63.2	102.6	564.5	257.4	19.3	1.000023
63500.0	60.2	-63.1	100.1	564.4	257.2	19.7	1.000022

STATION ALTITUDE 4051.00 FEET MSL
 13 JAN. 77 0815 HRS MST
 ASCENSION NO. 16

UPPER AIR DATA
 C130030016
 JALLEN
 TABLE X (CONT)

WEST SITE COORDINATES
 45°45'1.60 FEET E
 46°40'23.05 FEET N

GEOMETRIC ALTITUDE MSL FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL.HUM. PERCENT	SPEED OF SOUND METER KNOTS	WIND DATA		INDEX OF REFRACTION
					DIRECTION DEGREES (TR)	SPEED KNOTS	
64000.0	56.8	-63.4	97.7	564.2	255.8	19.6	1.0000022
64500.0	57.4	-63.5	95.4	564.1	254.5	19.9	1.0000021
65000.0	56.0	-63.6	93.1	564.0	254.0	18.4	1.0000021
65500.0	54.5	-63.6	90.9	563.9	253.5	16.9	1.0000020
66000.0	53.3	-63.3	88.5	564.4	254.7	16.1	1.0000020
66500.0	52.0	-62.1	85.9	566.0	257.4	15.3	1.0000019
67000.0	50.8	-60.9	87.3	567.5	259.8	15.9	1.0000019
67500.0	49.6	-60.1	81.0	568.6	259.8	19.0	1.0000018
68000.0	48.4	-55.9	79.0	569.0	259.8	22.1	1.0000018
68500.0	47.2	-59.6	77.0	569.3	255.8	24.8	1.0000017
69000.0	46.1	-59.6	75.1	569.6	252.2	27.3	1.0000017
69500.0	45.0	-59.1	73.2	570.0	263.4	29.9	1.0000016
70000.0	43.9	-58.9	71.4	570.3	266.0	26.7	1.0000016
70500.0	42.9	-58.6	69.6	570.6	266.7	22.8	1.0000015
71000.0	41.8	-58.4	67.9	571.0	163.5	18.8	1.0000015
71500.0	40.8	-58.1	66.2	571.3	150.3	14.5	1.0000015
72000.0	39.9	-55.2	63.7	575.2	220.7	11.4	1.0000014
72500.0	39.0	-53.7	61.8	577.1	259.8	10.4	1.0000014
73000.0	38.0	-54.0	63.5	576.7	194.9	10.1	1.0000013
73500.0	37.2	-54.3	59.1	575.3	190.9	10.4	1.0000013
74000.0	36.3	-54.6	57.9	576.0	181.2	9.4	1.0000013
74500.0	35.4	-54.9	56.6	575.6	185.2	8.1	1.0000013
75000.0	34.6	-55.1	55.3	575.2	190.6	6.9	1.0000012
75500.0	33.8	-55.4	54.1	574.6	200.5	7.3	1.0000012
76000.0	33.0	-55.6	52.8	574.6	208.2	9.1	1.0000012
76500.0	32.2	-54.9	51.5	575.5	213.8	10.4	1.0000011
77000.0	31.5	-54.5	50.2	576.4	210.6	10.1	1.0000011
77500.0	30.8	-54.0	48.9	576.7	207.1	9.9	1.0000011
78000.0	30.0	-53.5	47.6	577.3	203.8	9.7	1.0000011
78500.0	29.3	-53.3	46.5	577.6	204.3	9.7	1.0000010

STATION ALTITUDE 4051.00 FEET MSL
13 JAN. 77
ASCENSION NO. 16

UPPER AIR DATA
013003ZC16
JALCN
TABLE X (CONT)

LAST SITE COORDINATES
450491.60 FEET E
464023.05 FEET N

GEOMETRIC ALTITUDE MILLIBARS FEET	PRESSURE MILLIBARS	TEMPERATURE AIR DEGREES CENTIGRADE	REL. HUM. PERCENT	SPEED OF WIND KNOTS	WIND DATA		INDEX OF REFRACTION
					DIR. CUBIC NETT	SOUND DEGREES (TH) KNOTS	
72200.0	72.0	-53.0	45.4	577.9	204.0	9.3	1.000012
72000.0	72.0	-53.0	44.3	576.0	204.0	9.5	1.000010
70000.0	72.0	-52.9	42.3	578.3	195.9	8.1	1.000010
68000.0	72.0	-52.8	42.0	578.5	194.7	8.9	1.000009
66000.0	72.0	-52.6	41.0	578.7	167.6	6.0	1.000009
64000.0	72.0	-52.5	40.0	579.0	147.0	4.4	1.000009
62000.0	72.0	-52.4	39.0	579.2	131.7	7.4	1.000009
60000.0	72.0	-52.3	38.0	579.4	120.6	9.1	1.000009
58000.0	72.0	-52.2	37.4	579.6	117.9	11.5	1.000008
56000.0	72.0	-52.1	36.5	579.9	109.6	14.0	1.000008
54000.0	72.0	-52.0	35.7	590.1	106.7	16.6	1.000008
52000.0	72.0	-51.9	34.9	590.3	112.4	15.1	1.000008
50000.0	72.0	-51.8	34.0	590.5	119.9	13.7	1.000008
48000.0	72.0	-51.7	33.2	590.8	129.0	12.5	1.000007
46000.0	72.0	-51.6	32.4	591.0	139.0	12.7	1.000007
44000.0	72.0	-51.5	31.6	591.2	148.7	12.7	1.000007
42000.0	72.0	-51.4	30.8	591.3	157.6	13.4	1.000007
40000.0	72.0	-51.3	30.2	591.3	156.7	14.3	1.000007
38000.0	72.0	-51.2	32.4	591.5	147.6	15.6	1.000007
36000.0	72.0	-51.1	31.6	591.5	140.1	17.2	1.000006
34000.0	72.0	-51.0	30.8	591.6	128.6	14.3	1.000006
32000.0	72.0	-50.9	30.2	591.6	128.6	14.3	1.000006
30000.0	72.0	-50.8	29.5	591.6	127.5	14.3	1.000006
28000.0	72.0	-50.7	28.7	591.6	126.9	14.3	1.000006
26000.0	72.0	-50.6	28.0	591.6	126.3	14.3	1.000006
24000.0	72.0	-50.5	27.3	591.6	125.7	14.3	1.000006
22000.0	72.0	-50.4	26.6	591.6	125.1	14.3	1.000006
20000.0	72.0	-50.3	25.9	591.6	124.5	14.3	1.000006
18000.0	72.0	-50.2	25.2	591.6	123.9	14.3	1.000006
16000.0	72.0	-50.1	24.5	591.6	123.3	14.3	1.000006
14000.0	72.0	-50.0	23.8	591.6	122.7	14.3	1.000006
12000.0	72.0	-49.9	23.1	591.6	122.1	14.3	1.000006
10000.0	72.0	-49.8	22.4	591.6	121.5	14.3	1.000006
8000.0	72.0	-49.7	21.7	591.6	120.9	14.3	1.000006
6000.0	72.0	-49.6	21.0	591.6	120.3	14.3	1.000006
4000.0	72.0	-49.5	20.3	591.6	119.7	14.3	1.000006
2000.0	72.0	-49.4	19.6	591.6	119.1	14.3	1.000006
0000.0	72.0	-49.3	18.9	591.6	118.5	14.3	1.000006

Copy available to DDC does not
permit fully legible reproduction

STATION ALTITUDE 4000.00 FEET MST
17 JUN. 77 2015 hrs MST
ASCD, 2100 NC. 17

MANDATORY LEVELS
C12CC3CC16
JALLEN

TABLE XI

WSTM SITE COORDINATES
450491.50 FEET E
464023.05 FEET N

Copy available to DDC does not
permit fully legible reproduction

PRESSURE MILLIBARS	FEET	DEGREES CENTIGRADE	TEMPERATURE AIR DEWPONT	REL. HUM. PERCENT		WIND DATA DIRECTION DEGREES (TN)	SPEED KNOTS
				REL. HUM. PERCENT	WIND DATA DIRECTION DEGREES (TN)		
360.0	4846.0	1.7	-2.1	76.	153.6	4.1	
380.0	4457.0	1.7	-5.5	62.	322.6	12.0	
400.0	3145.0	-2.7	-6.1	59.	313.0	9.1	
420.0	2102.0	-6.9	-11.3	71.	297.8	10.1	
440.0	11923.0	-13.7	-21.1	42.	270.7	19.6	
460.0	12817.0	-15.1	-28.7	30.	263.5	15.4	
480.0	14957.0	-18.7	-35.7	21.	245.2	16.9	
500.0	18268.0	-23.6	-36.1	32.	245.2	14.9	
450.0	20768.0	-29.2	-44.0	32.	357.7	13.8	
400.0	25495.0	-34.9	-49.7	21.	260.8	17.1	
350.0	25675.0	-39.1	-52.0	11.**	272.7	32.2	
300.0	29857.0	-44.0	-44.0	29.6	29.6	22.3	
250.0	31010.0	-51.1	-51.1	26.4	45.1	17.0	
200.0	36564.0	-51.7	-51.7	25.0	47.0	17.0	
175.0	41535.0	-51.6	-51.6	25.1	60.0	14.5	
150.0	44786.0	-52.5	-52.5	24.6	7	34.6	
125.0	49524.0	-57.0	-57.0	26.7	2	16.5	
100.0	55358.0	-61.4	-61.4	24.7	8	17.7	
80.0	57589.0	-67.6	-67.6	25.7	4	14.5	
70.0	62112.0	-67.6	-67.6	25.5	9	15.6	
60.0	63495.0	-63.7	-63.7	25.6	9	15.8	
50.0	67029.0	-68.0	-68.0	25.6	6	17.8	
40.0	71587.0	-65.6	-65.6	23.2	4	11.7	
30.0	77745.0	-58.6	-58.6	20.7	8	14.7	
25.0	81595.0	-52.0	-52.0	134.2	7	7.1	
20.0	86762.0	-50.6	-50.6	152.4	12.0		

** AT LEAST ONE ASSUMED RELATIVE HUMIDITY VALUE WAS USED IN THE COMPUTATION.